

## Simple-to-use and Fast

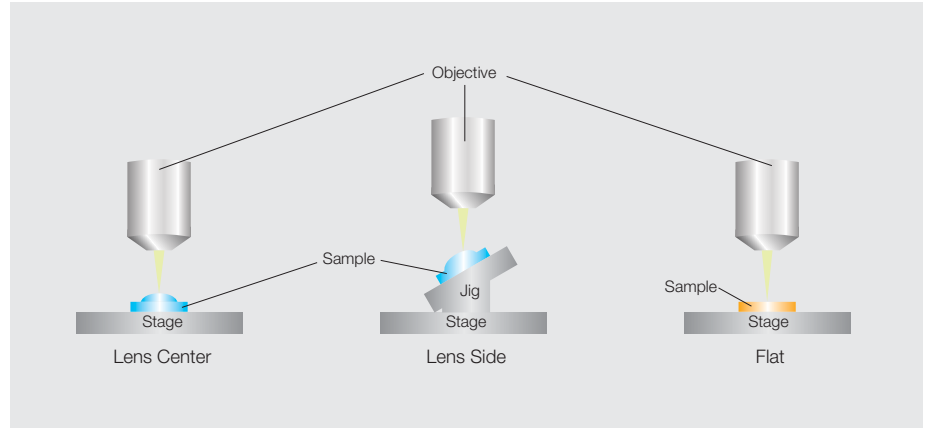
Reflectivity Measurements in Seconds from 380 nm to 780 nm Wavelengths



# Designed to Measure the Reflectivity on Lenses, Flat Glass, Plastics and Electronics Components, the USPM-RU III Speeds Up Quality Control and R&D Projects by Providing Accurate Reflectivity Measurements without the Need for Time-consuming Backside Coating

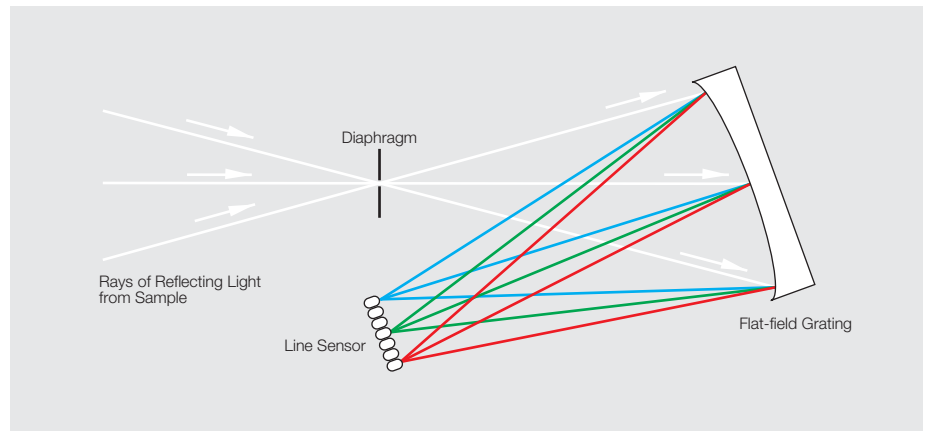
## Measuring Even Minute Areas

The curved surface of the lens can be measured from a minute spot as small as  $\varnothing 60 \mu\text{m}$  or  $\varnothing 30 \mu\text{m}$  formed on the sample surface. This provides the ability to use a goniometer to examine the curved side of lenses or other optical components.



## Fast Results

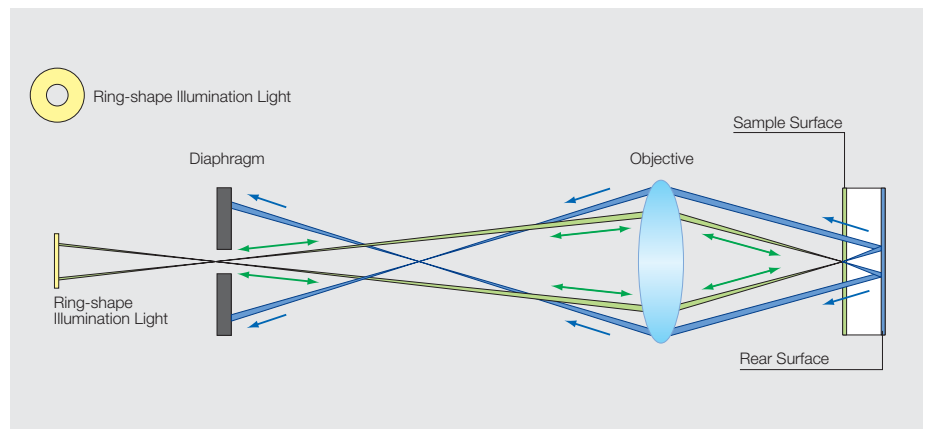
Quick, highly repeatable measurements can be achieved in seconds using a flat field grating, line sensor and high-speed spectrophotometry.



Complete the measurement in seconds after collecting the whole wavelength at the flat-field grating.

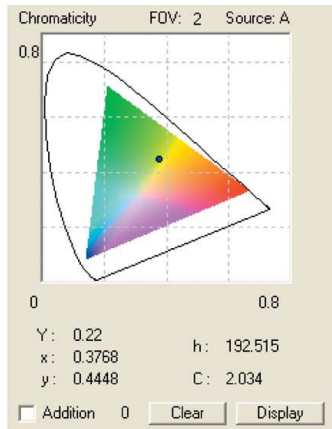
## Reduces Backside Interference

Accurate measurement of surface reflectivity can be performed without the costly steps needed to prevent rear surface reflection. Rear surface-reflected light is reduced by means of special optics using ring-shape illumination light that block all out-of-focus light reflection similar to a confocal system. Whether your optical component is spherical, aspherical or flat, the USPM-RU III does not require sample preparation through anti-reflection treatments.

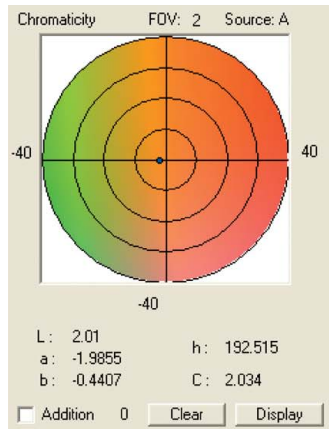


## X-Y Chromaticity Diagrams and L\*A\*B Measurement

Object color can be measured based on spectrophotometric colorimetry determined from the prismatic reflectivity.



Example of an X-Y Chromaticity Diagram

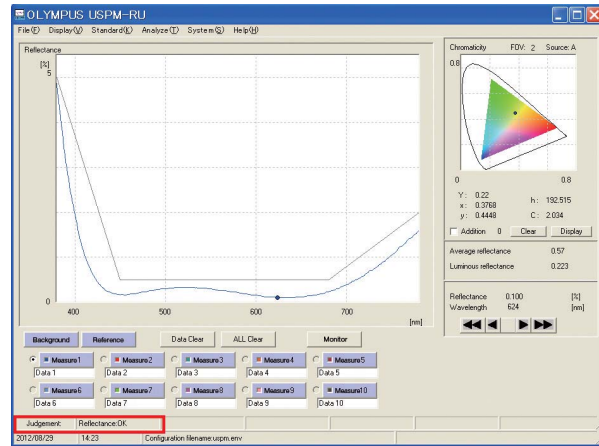


Example of an L\*A\*B Measurement

## Ease-to-use Software Helps Us Deliver Pass/Fail Results

Putting value of standard in reflection ratio and chromaticity diagram enables to make Fall/Pass decisions.

■ Major measurement factors: Reflection ratio, Object color



Pass/Fail results are displayed on screen (gray: standard line, blue: measurement result).

## Major Applications

- Optical lens, Mirrors, Prisms, Optical components with coating
- LED reflectors, MEMS mirrors

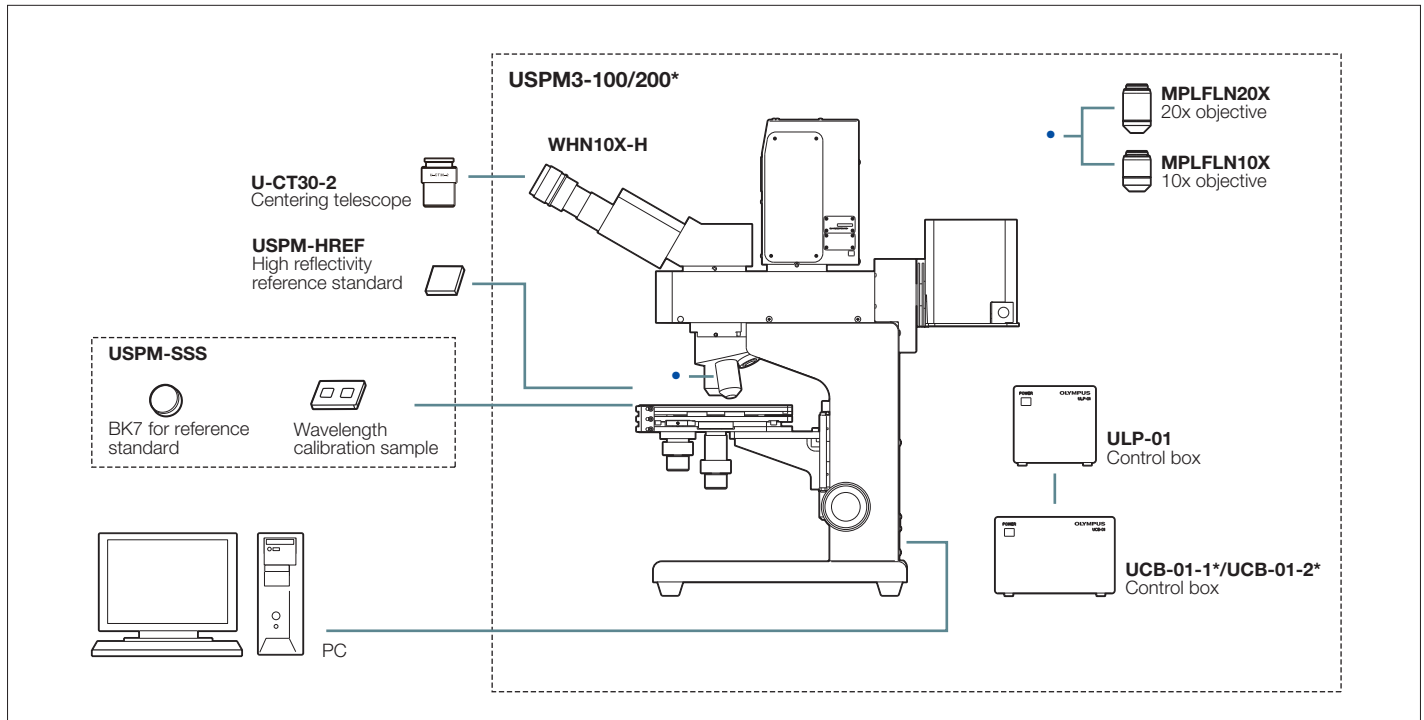
## Specifications

Measurement wavelength	380 nm–780 nm*
Measurement method	Comparison measurement using reference sample
Sample NA (differs from objective's NA)	0.12 (10x objective), 0.24 (20x objective)
Sample W.D.	10.1 mm (10x objective), 3.1 mm (20x objective)
Sample curvature radius	-1R-∞, +1R-∞
Sample measurement range	Approximately ø60 µm (10x objective), Approximately ø30 µm (20x objective)
Measurement repeatability (3σ)	±0.2% (380 nm–410 nm), ±0.02% (410 nm–780 nm)
Display resolution	1 nm
Measurement time	A few seconds
Light source	Halogen lamp 12 V 100 W
Z-direction movement range of the stage	85 mm
PC interface	USB
Weight	Unit: Approximately 20 kg (excluding PC) Power supply for light source: Approximately 3 kg Control box: Approximately 8 kg
Dimensions	Unit: 300 (W) x 550 (D) x 570 (H) mm Power supply for light source: 150 (W) x 250 (D) x 140 (H) mm Control box: 220 (W) x 250 (D) x 140 (H) mm
Power supply	Power supply for light source: AC100 V-240 V (180 VA) 50/60 Hz Control box: AC100 V-120 V (85 VA) 50/60 Hz Specifications: USPM3-100 AC220 V-240 V (50 VA) 50/60 Hz Specifications: USPM3-200
Operating environment	Installed at the horizontal plane with no vibration; Temperature: 10 °C–30 °C; Humidity: 15%–85%, no condensation

\*Please contact your nearest Olympus representative for measurement wavelengths 440 nm–840 nm.

- This system does not guarantee the absolute accuracy that conformed to a traceability system.

## USPM-RU III Series System Diagram



\* In power supply of 220-240 V AC, a UCB-01-2 is chosen as a control box.

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